

# EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	1	("3963818").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/03 14:22
S2	0	(piston and ring and insert).ab. and salt and pressure and temperature	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/03 14:53
S3	2	(piston and ring and insert).ab. and salt and pressure	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/03 14:49
S4	29	("1759509"   "2473254"   "2685729"   "3991811"   "4026197"   "4083292"   "4120081"   "4494501"   "4586553"   "4658706"   "4662326"   "4776075"   "4833977"   "4890543"   "4971003"   "5425306"   "5505171"   "5660156").PN. OR ("5979298").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/03 14:50
S5	129	(piston and ring and insert).ab.	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/03 16:22
S6	2246	method.ti. and (piston adj ring)	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/03 14:50
S7	367	method.ti. and (piston adj ring).ti.	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/03 16:17
S8	116	S7 and (cast casting)	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/03 14:51
S9	75	(ring and insert).ab. and piston and (cast casting)	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/03 14:53
S10	33	(ring and insert).ab. and (piston adj ring) and (cast casting)	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/03 14:57
S11	42	S9 not S10	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/03 14:57
S12	4	(piston adj ring) and (ring adj insert).ab.	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/03 16:17
S13	8	("2124360"   "2833668"   "4261088").PN. OR ("4488522").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/03 16:18
S14	504	(piston and ring and support).ab.	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/03 16:22
S15	40	(piston adj ring adj support)	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/03 16:28
S16	46	(piston adj ring).ab. and salt	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/03 16:30
S17	28	S16 not (salt adj bath)	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/03 16:30
S18	49	(US-20060151573-\$.did. or (US-4793374-\$. or US-4938614-\$. or US-4938452-\$. or US-5219849-\$. or US-5320238-\$. or US-6161326-\$. or US-6209345-\$. or US-6294549-\$. or US-6297258-\$. or US-6333335-\$. or US-6372245-\$. or US-6462192-\$. or US-4388806-\$. or US-5377241-\$. or US-5400499-\$. or US-4447180-\$. or US-4530506-\$. or US-4793239-\$. or US-5347554-\$. or US-5375458-\$. or US-5379330-\$. or US-5394446-\$. or US-5426680-\$. or US-5465497-\$. or US-5513229-\$. or US-5524030-\$.).did. or (US-5839527-\$. or US-5903974-\$. or US-6019080-\$. or US-6060892-\$. or US-6152423-\$. or US-4244627-\$. or US-4268014-\$. or US-4305348-\$. or US-4312106-\$. or US-4418711-\$. or US-4587177-\$. or US-4770133-\$. or US-4773872-\$. or US-4792322-\$. or US-4863392-\$. or US-4893878-\$. or US-4913658-\$. or US-4915010-\$. or US-5402764-\$. or US-5636531-\$. or US-5651335-\$. or US-5701800-\$.).did.	US-PGPUB; USPAT	OR	ON	2007/10/04 08:48
S19	11	("4083292"   "4408575"   "4651631").PN. OR ("4907545").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/04 09:25
S20	4	("4120081"   "4907545"   "5014658"   "6105540").PN. OR ("7003878").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/04 12:35
S21	56	("1073197"   "1157347"   "20040177503"   "20040177504"   "20040177505"   "20040194308"   "2108194"   "2282085"   "2720871"   "2806750"   "3070079"   "3314402"   "3413963"   "4011797"   "4067307"   "4120081"   "4180027"   "4206726"   "4368697"   "4470375"   "4493292"   "4502422"   "4581983"   "4587932"   "4662319"   "4776075"   "4907545"   "5014658"   "5771776"   "5947065"   "6105540").PN. OR ("5947065"   "6032619"   "6105540"   "7003878"   "7069881").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/04 09:28
S22	4	(method).ti. and ((ring adj carrier and piston).ab.	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/04 12:35
S23	4	(method).ti. and ((ring adj carrier) and piston).ab.	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/04 12:37

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S24	25	((ring adj carrier) and piston).ab.	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/04 14:39
S25	21	S24 not S23	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/04 12:37
S26	2	(piston and ring and Insert).ab. and salt and pressure	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/04 15:04
S27	29	("1759509"   "2473254"   "2685729"   "3991811"   "4026197"   "4083292"   "4120081"   "4494501"   "4586553"   "4658706"   "4662326"   "4776075"   "4833977"   "4890543"   "4971003"   "5425306"   "5505171"   "5660156").PN. OR ("5979298").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/04 15:04
S28	129	(piston and ring and Insert).ab.	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/04 15:04
S29	75	(ring and insert).ab. and piston and (cast casting)	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/04 15:04
S30	33	(ring and Insert).ab. and (piston adj ring) and (cast casting)	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/04 15:04
S31	42	S29 not S30	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/04 15:04
S32	8	("2124360"   "2833668"   "4261088").PN. OR ("4488522").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/04 15:04
S33	46	(piston adj ring).ab. and salt	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/04 15:04
S34	28	S33 not (salt adj bath)	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/04 15:04
S35	49	(US-20060151573-\$.did. or (US-4793374-\$ or US-4938614-\$ or US-4938452-\$ or US-5219849-\$ or US-5320238-\$ or US-6161326-\$ or US-6209345-\$ or US-6294549-\$ or US-6297258-\$ or US-6333335-\$ or US-6372245-\$ or US-6462192-\$ or US-4388806-\$ or US-5377241-\$ or US-5400499-\$ or US-4447180-\$ or US-4530506-\$ or US-4793239-\$ or US-5347554-\$ or US-5375458-\$ or US-5379330-\$ or US-5394446-\$ or US-5426680-\$ or US-5465497-\$ or US-5513229-\$ or US-5524030-\$.did. or (US-5839527-\$ or US-5903974-\$ or US-6019080-\$ or US-6060892-\$ or US-6152423-\$ or US-4244627-\$ or US-4268014-\$ or US-4305348-\$ or US-4312106-\$ or US-4418711-\$ or US-4587177-\$ or US-4770133-\$ or US-4773872-\$ or US-4792322-\$ or US-4863392-\$ or US-4893878-\$ or US-4913658-\$ or US-4915010-\$ or US-5402764-\$ or US-5636531-\$ or US-5651335-\$ or US-5701800-\$.did.	US-PGPUB; USPAT	OR	ON	2007/10/04 15:04
S36	11	("4083292"   "4408575"   "4651631").PN. OR ("4907545").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/04 15:04
S37	4	("4120081"   "4907545"   "5014658"   "6105540").PN. OR ("7003878").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/04 15:04
S38	56	("1073197"   "1157347"   "20040177503"   "20040177504"   "20040177505"   "20040194308"   "2108194"   "2282085"   "2720871"   "2806750"   "3070079"   "3314402"   "3413963"   "4011797"   "4067307"   "4120081"   "4180027"   "4206726"   "4368697"   "4470375"   "4493292"   "4502422"   "4581983"   "4587932"   "4662319"   "4776075"   "4907545"   "5014658"   "5771776"   "5947065"   "6105540").PN. OR ("5947065"   "6032619"   "6105540"   "7003878"   "7069881").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/04 15:04
S39	320	S30 S31 S28 S27 S26 S29 S32 S34 S35 S36 S38 S37	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/04 15:04
S40	368	("0858433"   "0892795"   "1073197"   "1157347"   "1208744"   "1296591"   "1309917"   "1390193"   "1476309"   "1553009"   "1715368"   "1759509"   "1866907"   "1946081"   "20040177503"   "20040177504"   "20040177505"   "20040194308"   "2040293"   "2108194"   "2124360"   "2164198"   "2199625"   "2282085"   "2294519"   "2297460"   "2349919"   "2376017"   "2380654"   "2390228"   "2390229"   "2473254"   "2550879"   "2647847"   "2685729"   "2687931"   "2696038"   "2720871"   "2752668"   "2753858"   "2753859"   "2786697"   "2806750"   "2833668"   "2851318"   "2865348"   "2876987"   "2882190"   "2893083"   "2905512"   "2959161"   "3064112"   "3070079"   "3075817"   "3092133"   "3098662"   "3104594"   "3133341"   "3190273"   "3251349"   "3314402"   "3354793"   "3356129"   "3369465"   "3380139"   "3413963"   "3421198"   "3471914"   "3508531"   "3555972"   "3567528"   "3596571"   "3615099"   "3616729"   "3628511"   "3671047"   "3686972"   "3709107"   "3729790"   "3744941"   "3751047"   "3770286"   "3790352"   "3811875"   "3853099"   "3861239"   "3865581"   "3875905"   "3882842"   "3886805"   "3891477"   "3914574"   "3943908"   "3945423"   "3991811"   "4011797"   "4026197"   "4057661"   "4067307"   "4073196"   "4083292"   "4120081"   "4152955"   "4174684"   "4179313"   "4180027"   "4206726"   "4211190"   "4223568"   "4261088"   "4334507"   "4361181"   "4368697"   "4408575"   "4470375"   "4485768"   "4488522"   "4493292"   "4494501"   "4498219"   "4502422"   "4506632"   "4517931").PN. OR ("4535730"   "4548126"   "4576060"   "4581983"   "4586553"   "4587932"   "4651631"   "4658706"   "4662319"   "4662326"   "4776075"   "4833977"   "4848170"   "4890543"   "4891875"   "4905751"   "4907545"   "4971003"   "5014658"   "5060603"   "5067456"   "5158047"   "5322109"   "5322425"   "5425306"   "5461776"   "5476076"   "5490445"   "5505171"   "5511521"   "5560334"   "5660156"   "5721056"   "5743012"   "5771776"   "5779818"   "5890465"   "5927236"   "5947065"   "6105540"   "6289857"   "6453869"   "6526935"   "6732683"   "6976467"   "Re33767").PN. OR ("1329271"   "2006/0151573"   "2390417"   "2833668"   "3053545"   "3963818"   "4008051"   "4120081"   "4137887"   "4305348"   "4336077"   "4488522"   "4547336"   "4577595"   "4651631"   "4829883"   "4907545"   "5014658"   "5660156"   "5901772"   "5947065"   "5979298"   "6032619"   "6105540"   "6199274"   "6199868"   "6837298"   "7003878"   "7069881"   "7077077"   "7185557"   "RE29899").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/04 15:05
S41	273	S40 not S39	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/04 15:05

## EAST Search History

S42	32	(US-20060151573-\$).did. or (US-4336077-\$ or US-1329271-\$ or US-4907545-\$ or US-5660156-\$ or US-3053545-\$ or US-4488522-\$ or US-5947065-\$ or US-6032619-\$ or US-7003878-\$ or US-7185557-\$ or US-4305348-\$ or US-2390417-\$ or US-4651631-\$ or US-7077077-\$ or US-6199274-\$ or US-3963818-\$ or US-5979298-\$ or US-4547336-\$ or US-6105540-\$ or US-RE29899-\$ or US-7069881-\$ or US-6199868-\$ or US-5014658-\$ or US-4120081-\$ or US-6837298-\$ or US-5901772-\$).did. or (US-4829883-\$ or US-4577595-\$ or US-4137887-\$ or US-4008051-\$).did. or (US-2833668-\$).did.	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/04 15:06
S43	272	S41 not S42	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/04 15:20
S44	161	S43 and ring	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/04 15:06
S45	1	"20060151573".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/04 15:20
S46	1	"6837298".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/04 15:20
S47	1	"5301599".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/04 15:20
S48	15	("2550879"   "2905512"   "3539192"   "4997024"   "5094149").PN. OR ("5301599").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/04 15:45
S49	1	"6189766".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/04 15:47
S50	678	(29/888.047 29/888.074 29/888.049 29/888.07 29/888.072).cds.	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/04 16:53
S51	122	S50 and pressure and (heat\$2 (pre-heat2) temperature)	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/04 15:55
S52	1	"7163594".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/04 15:55
S53	0	S50 and n/mm	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/04 16:53
S54	1	S50 and n/mm\$1	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/04 17:03
S55	556	S50 not S51	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/05 08:42
S56	678	(29/888.047 29/888.074 29/888.049 29/888.07 29/888.072).cds.	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/05 08:43
S57	122	S56 and pressure and (heat\$2 (pre-heat2) temperature)	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/05 08:43
S58	556	S56 not S57	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/05 08:43
S60	377	S58 and ring	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/05 12:07
S61	6	S60 and salt	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/05 08:44
S62	11	("2685729"   "3264717"   "3413897"   "4559685"   "4776075"   "4891875").PN. OR ("5737838").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/05 08:46
S63	25	("3459253"   "4491168").PN. OR ("3413897"   "4776075").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/05 09:14
S64	17	("3459253"   "4491168").PN. OR ("4776075").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/05 09:41
S65	4312	(123/41 123/41.35 123/193.2 123/193.4 123/193.6 92/165R 92/166 164/132).cds.	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/05 09:41
S66	877	S65 and (piston adj ring)	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/05 11:27
S67	214	S66 and (pressure and temperature and (cast casting))	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/05 10:32

## EAST Search History

S68	56	S66 and (ring adj (insert support carrier))	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/05 11:05
S69	192	S67 not S68	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/05 11:05
S70	4960	S65 S56	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/05 11:05
S71	10	S70 and pressure and ((pressed press) near (core groove hole))	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/05 11:09
S72	13	S70 and pressure and ((pressed compress press) near (core groove hole))	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/05 11:09
S73	663	S66 not S67	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/05 11:27
S74	8	("4907545").URPN.	USPAT	OR	ON	2007/10/05 11:57
S75	28	ducati.as.	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/05 15:23
S76	2	("4461343" "4505419").pn.	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/05 15:23
S77	18	(piston adj ring adj carrier)	EPO; JPO	OR	ON	2007/10/05 15:56
S78	10	("3356129").PN. OR ("3963818").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/05 17:49
S79	247	(92/227 92/228).ccs.	US-PGPUB; USPAT; USOCR	OR	ON	2007/10/05 17:49
S80	54	(US-20070022980-\$ or US-20060151573-\$ or US-20060191508-\$ or US-20020040700-\$).did. or (US-7013948-\$ or US-5979298-\$ or US-4829883-\$ or US-5094149-\$ or US-4547336-\$ or US-4137887-\$ or US-4120081-\$ or US-4488522-\$ or US-4336077-\$ or US-RE29899-\$ or US-4008051-\$ or US-6199274-\$ or US-7077077-\$ or US-5301599-\$ or US-2390417-\$ or US-3053545-\$ or US-1329271-\$ or US-7213562-\$ or US-4776075-\$ or US-3963818-\$ or US-5660156-\$ or US-6199868-\$ or US-4907545-\$ or US-4651631-\$ or US-4305348-\$ or US-6105540-\$).did. or (US-6032619-\$ or US-7069881-\$ or US-5014658-\$ or US-6837298-\$ or US-7003878-\$ or US-5947065-\$ or US-5901772-\$ or US-5119777-\$ or US-4577595-\$ or US-4997024-\$ or US-4891875-\$ or US-4334507-\$ or US-6546626-\$ or US-5737838-\$ or US-5357920-\$ or US-5052280-\$ or US-3659569-\$).did. or (US-3380139-\$ or US-3475804-\$ or US-3413897-\$ or US-2833668-\$ or US-1946081-\$ or US-3349672-\$).did. or (EP-1052435-\$).did.	US-PGPUB; USPAT; USOCR; EPO	OR	ON	2007/10/09 09:26
S81	6	S80 and gray	US-PGPUB; USPAT; USOCR; EPO	OR	ON	2007/10/09 09:26